

ABSTRACT

An AC controller which provides programmable switching of AC power flow, together with producing a source of DC power for operating the AC controller. The

5 AC controller is connected in series with only one side of the AC power source and the AC load. The AC controller utilizes a thyristor for AC power control switching. During the operation, the AC controller steals a small portion of each half-cycle of the AC power to provide DC power to the AC controller. The AC controller enables the flow of AC current by providing a gate current pulse at any predetermined time during

10 the half cycle. Once the thyristor is ON, the AC current flows through the thyristor until the AC cycle is at or near zero. To provide an OFF state, the AC controller does not provide a gate current pulse. The AC controller uses an microcontroller for the programmable capability. The AC controller can be programmed to provide a flashing light function, a time delay off mode, an automatic fade mode, a dimming

15 function, a burglar deterrent function, and a time delay dim function. With a three-position switch which can replace existing types of wall switches, three modes of operation are achieved: ON, OFF, and MODE. The mode position initiates operation of the special function of the controller.